

Z-knotted triangulations of surfaces

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Let Γ be a connected simple finite graph embedded in a connected closed 2-dimensional surface. A *zigzag* is a closed path in the graph Γ , where any two consequent edges lie on the same face and for any three consequent edges the face containing the first and second edges is distinct from the face which contains the second and third. The graph Γ is *z-knotted* if it contains a single zigzag. Such graphs are closely connected to Gauss code problem and have nice homological properties. We show that every triangulation of a connected closed 2-dimensional surface admits a *z-knotted* shredding. Also, we describe all cases when the connected sum of *z-knotted* triangulations is *z-knotted*.

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